

(3 Hours)

[Total Marks: 80]

**N.B.: 1) Question No.1 is compulsory.
2) Attempt any three from the remaining five questions.**

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| Q.1 | (a) | What are the load-sharing policies used for distributed systems? | 5 |
| | (b) | What are election algorithms? Explain bully algorithm. | 5 |
| | (c) | What are the issues in data security in cloud computing? | 5 |
| | (d) | What is a grid computing mechanism | 5 |
| Q.2 | (a) | Discuss the issues in designing and implementing DSM systems. | 10 |
| | (b) | What is process management? Explain the address transfer mechanism in detail. | 10 |
| Q.3 | (a) | What is physical and logical clock synchronization; explain the drifting of a clock. | 10 |
| | (b) | What is group communication? Explain in detail Message ordering techniques (Absolute, consistent and causal ordering) | 10 |
| Q.4 | (a) | Explain cloud computing and discuss cloud security issues. | 10 |
| | (b) | How file management is performed in a distributed environment?
Explain with an example. | 10 |
| Q.5 | (a) | What is multi-datagram messaging? Explain the failure handling technique in IPC | 10 |
| | (b) | Explain cloud computing architecture in detail. | 10 |
| Q.6 | Write a short note on: | | 20 |
| | a. | Pipeline Thread Model | |
| | b. | Strict Consistency Model | |
| | c. | Drifting of the clock | |
| | d. | Callback RPC | |
